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10/790,308	03/01/2004	Ching-Kwang Lee	370.8007USU	9325
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Please find below and/or attached an Office communication concerning this application or proceeding.

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	Application No.	Applicant(s)			
Office A 41's see Ones	10/790,308	LEE, CHING-KWANG			
Office Action Summary	Examiner	Art Unit			
	Edward F. Landrum	3724			
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply					
A SHORTENED STATUTORY PERIOD FOR REPLY WHICHEVER IS LONGER, FROM THE MAILING DA - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. If NO period for reply is specified above, the maximum statutory period varieties or extended period for reply within the set or extended period for reply will, by statute Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION 36(a). In no event, however, may a reply be timution and will expire SIX (6) MONTHS from a cause the application to become ABANDONE	the mailing date of this communication. D (35 U.S.C. § 133).			
Status					
Responsive to communication(s) filed on 2a) ☐ This action is FINAL. 2b) ☑ This 3) ☐ Since this application is in condition for allowar closed in accordance with the practice under E	action is non-final.				
Disposition of Claims					
4) ☐ Claim(s) 1-3 is/are pending in the application. 4a) Of the above claim(s) is/are withdray 5) ☐ Claim(s) is/are allowed. 6) ☐ Claim(s) 1-3 is/are rejected. 7) ☐ Claim(s) is/are objected to. 8) ☐ Claim(s) are subject to restriction and/o					
Application Papers					
9) The specification is objected to by the Examine 10) The drawing(s) filed on 01 March 2004 is/are: Applicant may not request that any objection to the Replacement drawing sheet(s) including the correct 11) The oath or declaration is objected to by the Ex	a)⊠ accepted or b)⊡ objected to drawing(s) be held in abeyance. Sec tion is required if the drawing(s) is ob	e 37 CFR 1.85(a). jected to. See 37 CFR 1.121(d).			
Priority under 35 U.S.C. § 119					
 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 					
Attachment(s) 1) Notice of References Cited (PTO-892)	4) 🔲 Interview Summary	(PTO-413)			
 Notice of References Cited (PTO-892) Notice of Draftsperson's Patent Drawing Review (PTO-948) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 	Paper No(s)/Mail D	ate Patent Application (PTO-152)			

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Haglund (U.S Patent No. 2,888,247).

Regarding claim 1, Haglund teaches a cutting insert comprising: a body (10) and a punch head (11) including two compact layers (12 and 13) of cobalt-containing tungsten carbide, the lower compact layer (13) welded to said body (10) to form a cutting unit (Col. 4, lines 7-9, also see Figures 1 and 4), and the upper contact layer sintered to the lower compact layer (Col. 4, lines 40-50). The Second College Edition of the *American Heritage Dictionary* defines the term sintering as the welding together of metallic powder. Therefore, the upper and lower compact layers of Lee are welded together.

Regarding claims 2 and 3, Haglund teaches (Col. 3, lines 3-40; Col. 4, lines 69-72; Col. 5, lines 1-41; also see Table 1) the upper contact layer (12) having less cobalt and therefore more tungsten than said lower compact layer (13). Moreover, Haglund teaches the tungsten carbide particle size in said upper layer (12) is larger that of the lower contact layer (13).

Conclusion

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Art Unit: 3724

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lee (U.S Publication No. 2002/0112588) teaches a sintered cobalt, containing tungsten carbide, product, and a process for making the same.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward F. Landrum whose telephone number is 571-272-5567. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan Shoap can be reached on 571-272-4514. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EFL 1 # 9/8/2005

Allan N. Shoap Supervisory Patent Examiner Group 3700

Second College Edition

American Heritage Dictionary

Best Available Copy

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INTRO]

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GUIDE 1

STYLE 1

PRONU

DICTION

BIOGRA:

GEOGRA

ABBREV

FOUR-Y

TWO-YE.

PICTURE

nomic independence and the renewal of culture in Ireland. [Ir. Gael. : sinn, we + fēin, self.] Slno- pref. Chinese: Sinology: [Fr. < LLat. Sinae, the Chinese < Gk. Sinai < Ar. Sin, China.] sl-no-atri-al (\$Tno-atri-al (\$Tno-atri-al) adj. Of or pertaining to the sino-atrial node [straffice].

si-no-attr-at (st. no-a tite-attract) and on-attract node. [sin(us) + ATRIAL.] sinoattral node n. A small mass of specialized cardiac muscle fibers located in the posterior wall of the right atrium of the heart that generates the initiating impulses of the heart-

Si-no-logue also Sin-o-log (sī'no-lôg', -lôg', sīn'o-) n. A student of Sinology [Fr., back-formation < Sinologie, Sinolog

ogy.] ogy.] of Chinese lan-Si-nol-o-gy (si-nol'2-jē, si-) n. The study of Chinese lan-guage, literature, or civilization. [Fr. Sinologie < Sino-, Sino-+ logie, -logy.] —Si'no-log'i-cal (si'no-loj'i-ka), sin'2-) adj. —Si-nol'o-giat n.

Si-no-phile (si'no-fil', sin'o-) n. One friendly to the Chinese

Si-no-phile (si'no-ii', sin 3-7). In A language family that includes the Sinitic and Tibeto-Burman branches.

Si-no-Ti-bet an (si'no-ii-bet'n, sin'o-) n. A language family that includes the Sinitic and Tibeto-Burman branches.

Sino-Ti-bet'an adj.

sin-ter (sin'tar) n. 1. Geol. A chemical sediment or crust, as of prous silica, deposited by a mineral spring. 2. A mass formed by sintering. —v. tered, ter-ing, ters. —tr. To weld together (metallic powder, for example) partially and without melting. —intr. To form a homogeneous mass by heat-

together (metallic powder, for example) partially and without melting. —intr. To form a homogeneous mass by heating without melting. [G., iron dross.] sinurate (sin y®-it, -āt') also sinurated (-ā'tid) adj. Having a wavy indented margin, as a leaf. [Lat. sinuatus, p.part. of sinuare, to bend < sinus, curve.] —sinurate-ly adv. —sinustics (-ā'than) in

of sinuare, to bend < sinus, tutve.]—sinuardion (A'shan) n.
sinu-os-i-ty (sin'y60-os'i-tê) n. pl. -ties. 1. The quality of being sinuous. 2. A bending or curving shape or movement.
sinuous (sin'y60-os') adj. 1. Characterized by many curves or turns; winding. 2. Supple and lithe. 3. Sinuate. [Lat. sinuous < sinus, curve.]—sin'u-ous-ty adv.—sin'u-ous-

ness n.

si-nus (sī'nəs) n. 1. A depression or cavity formed by a bending or curving. 2. Anat. a. A dilated channel for the passage of chiefly venous blood. b. Any of various air-filled cavities in the cranial bones, esp. one communicating with the nostrils. 3. Pathol. A fistula or channel to a suppurating cavity. 4. Bot. A notch or indentation between lobes of a leaf or corolla. [Lat. sinus, curve, hollow.]

si-nus-i-tls (sī'nə-sī'tis) n. Inflammation of a sinus membrane, esp. in the nasal region.

si-nu-sold (sī'nə-soid', -nyə-) n. A sine curve. [Med. Lat. sinus, sine < Lat., curve + -oid.] —si'nu-so'dal (-soid'l) adj.

sinusoidal projection n. A map projection in which areas are equal to corresponding areas on a globe, the parallels and the prime meridian being straight lines and the other meridians being increasingly curved outward from the prime meridian. Sl-on (si'an) n. Variant of Zion.

Slouran (so an) n. A large North American Indian language family spoken from Lake Michigan to the Rocky Mountains and southward to Arkansas. [Stou(x) + -AN.]

—Slouan adj.
Sloux (500) n., pl. Sloux (500, 500z). 1. a. Any of the various groups of Siouan-speaking North American Indian peoples formerly occupying parts of the Great Plains in the Dakotas, Minnesota, and Nebraska. b. An individual member of the Sizura Cartes and State of the languages of the as, minnesota, and inclusara. D. An individual includes of one of the Sioux groups. 2. Any of the languages of the Sioux. [Fr., short for Nadowessioux < Ojibwa nātowēssiwak, the Dakota.]—Sioux adj.

Sioux. [Fr., short for Nadowessioux < Ojibwa nātowēssiwak, the Dakota.] —Sloux adj. sip (sip) v. alpped, slps. —tr. 1. To drink delicately and in small quantities. 2. To drink from in sips. —intr. To drink in sips. —n. 1. The act of sipping. 2. A small quantity of liquid sipped. [ME:sippen.] —slp'per n. sl-phon also sy-phon (si Jan) n. 1. A pipe or tube fashioned or deployed in an inverted U shape and filled until atmospheric pressure is sufficient to force a liquid from a reservoir in one end of the tube over a barrier higher than the reservoir and out the other end. 2. Zool. A tubular organ, esp. of aquatic invertebrates such as squids or clams, by which water is taken in or expelled. —v.—phoned, phon-ing, phons.—tr. To draw off or convey through or as if through a siphon.—intr. To pass through a siphon. [Fr. Lat. sipho < Gk. siphōn, tube.] —sl'phon-at, sl-phonic (si-fon'tk) adj. si-phon-o-phore (si-fon'o-for', -for', -si'fo-no-) n. Any of various colonial marine coelenterates of the order Siphonophora, order name: Lat. sipho, siphon + Gk. pherein, to bear.]

ein, to bear.]
si-phon-o-stele (si-fon'o-stel', si'fo-no-ste'le) n. A vascular tube surrounding, the pith in the stems of certain plants. [siPhon+ stelle.]—si-phon'o-ste'lle (-ste'lik) adj.
si-phun:cle (sif'ūng'ka) n. 1. A tubelike structure in the body of a shelled cephalopod, such as a chambered nautilus. extending through each chamber of the shell. 2. A dorsal tube in an aphid, secreting a waxy fluid. [Lat. siphunculus, dim. of sipho, siphon.]
siprpet (sip'īt) n. A small piece of toast or bread soaked in gravy or other juice. [< sip, alteration of Sor.]

sir (sûr) n. 1. Often Sir. A respectful form of address used instead of a man's name. 2. Sir. A title of honor used before the given name or the full name of baronets and knights.

3. A gentleman of rank. [ME, var. of sire. —see SIRE.]
sir-dar (sûr/dâr', sor-dâr') n. A person of high rank, esp. in India. [Hindi sardâr' < Pers. : sar, head + dâr, holder.]
sire (sîr) n. 1. a. A father. b. Archaic. A male ancestor; forfather. 2. The male parent of an animal, esp. a domesticated mammal such as a horse. 3. Archaic. A gentleman of rank.

4. Archaic. A title and form of address to a superior, used esp. in addressing a king. —tr.v. sired, siring, sires. To

mammai such as a norse. 3. Archaic. A genticman of rank. 4. Archaic. A title and form of address to a superior, used esp. in addressing a king.—Ir.v. sired, siring, sires. To beget. [ME < OFr. < Lat. senior, older, comp. of senex, old.] siree (sɔ-re') n. Variant of siree.

siren (sirən) n. 1. Often Siren. Gk. Myth. One of a group of sea nymphs who by their sweet singing lured mariners to destruction on the rocks surrounding their island. 2. A beautiful, seductive woman; temptress. 3. a. A device in which compressed air or steam is driven against a rotating perforated disk to create a loud, penetrating whistle, wailing, or other sound as a signal or warning. b. An instrument producing a similar sound as a signal or warning. 4. Any of several North American amphibians of the family Sirenidae, having an eellike body and no hind limbs. [ME < OFr. sereine < Llat. sirena < Lat. Siren < Gk. Seirēn.] sireni-an (sī-rē'nē-ən) n. A herbivorous aquatic mammal of the order Sirenia, which includes the manatee and the dugong. —adj. Of or belonging to the Sirenia. [< NLat. Sire.

the order Sirenia, which includes the manatee and the dugong. —adj. Of or belonging to the Sirenia. [< NLat. Sirenia, order name < Lat. Siren, siren.] siren song n. An enticing plea or appeal, esp. one that is deceptively alluring.

Siri-us (siri-2s) n. A star in the constellation Canis Major, the brightest star in the sixty approximately 8.7 high year.

Sir-i-us (sir & -2s) n. A star in the constellation Canis Major, the brightest star in the sky, approximately 8.7 light years distant from Earth. [Lat. < Gk. Seirios < seirios, burning] sir-loin (sūr-loin) n. A cut of meat, esp. of beef, from the upper part of the loin between the rump and the porterhouse. [OFr. surlonge: sur, above (< Lat. super) + longe, loin < Lat. lumbus.]

sir-toc-co (sa-rōk'o) also sci-roc-co (sha-) n., pl. -coa. 1. A hot, humid south or southeast wind of southern Italy, Siely, and the Mediterranean islands, originating in the Sahara as a dry, dusty wind but becoming moist as it passes over the Mediterranean. 2. A hot or warm southerly wind, esp. one moving toward a low barometric pressure center. [Ital. < Ar. sharq, east.]

sharq, east.]
sirrah (sir's) n. Obs. Mister; fellow. Used as a contemptuous form of address. [Alteration of sir.]
sirree also siree (so-re') n. Informal. Sir. Used after yes or

sirree also siree (50-te') n. Informal. Sir. Used after yes or no for emphasis.

sirup (sir'p, sûr') n. Variant of syrup.

sirup (sir'p, sûr') n. Variant of syrup.

sirvente (sîr-vănt') also sir-ven-tes (-vên'təs) n., pl. ventes (-vânt', -vânts') also -ven-tes (-vên'təs). A form of lyric verse of the Provençal troubadours satirizing political, social, or moral themes. [Fr. < Prov. sirventes < sirvent, servant < Lat. serviens, pr. part. of servire, to serve < servus, servant.] sis (sis) n. Informal. Sister.

si-sal (sî'səl, -zal) n. 1. A fleshy plant, Agave sisalana, native to Mexico, widely cultivated for its large leaves that yield a stiff fiber used for cordage and rope. 2. a. The fiber of the sisal. b. The fiber of certain similar or related plants. [Mex. Sp., after Sisal, a town in Yucatân.]

sis-kin (sîs'kin) n. Any of several small birds of the family Fringillidae, esp. Carduells spinus, of Eurasia, or the pine siskin. [MDu. siseken, dim. of MLG sisek, of Slav. ong.] sis-l-fled (sis's-1id') adj. Of, relating to, or having the characteristics of a sissy; effeminate.

sis-sy (sîs'e) n., pl. -sles. 1. An effeminate boy or man; milk-sop. 2. A timid or cowardly person. 3. Informal. Sister. [sis, short for sisters.] —sle'sy adj.

slssy bar n. Informal. A narrow, inverted bar shaped like a U that rises from behind the seat of a motorcycle or bicycle and that supports the driver or a passenger.

and that supports the driver or a passenger.
sis-ter (sis'tar) n. 1. a. A female having the same mother and father as another. b. A female having one parent in common with another. 2. A female who shares a common anceston allegings cheeses. mon with another. 2. A female who shares a common ance-try, allegiance, character, or purpose with another or others, specifically: a. A kinswoman. b. A female fellow member, as of a sorority. c. A fellow woman, friend, or companion. 3. Informal. A girl or woman. Used as a form of direct ad-dress. 4. Slater. Eccles. a. A member of a relivious order of dress. 4. Sister. Eccles. a. A member of a religious order of dress. 4. Sister. Eccles. a. A member of a religious order of women; nun. b. A form of address for such a person. 5. Chiefly Brit. A nurse, esp. the head nurse in a ward. 6. One identified as female and closely related to another. "the sisters Death and Night" (Walt Whitman). [ME partly < OE sweostor, and partly of Scand. orig.] sis-ter-thood (51s'tar-hōod') n. 1. The state or relationship of being a sister or sisters. 2. The quality of being sisterly. 3. A society, esp. a religious society, of women. 4. Association of unification of women in a common cause: the sisterhood of

unification of women in a common cause: the sistethood of

sis-ter-in-law (sis'tor-in-lô') n., pl. sis-ters-in-law. 1. The sister of one's husband or wife. 2. The wife of one's brother.

3. The wife of the brother of one's spouse. sis-ter-ly (sis'tor-lê') adj. Characteristic of or befitting a sister or sisters. —adv. As a sister. —sis'ter-li-ness n.

Sis-tine (sis'tên', si-stên') also Six-tine (sik'stên', -stin') adj.

1. Of or concerning one of the pope relating to the Sistine Chapel in the NLat. sixtinus < Sixtus, the name o sistrum (sixtusm), p.l. -trums or instrument of ancient Egypt consi loops attached to a metal frame. [Medical of the sixtusment of shake]

1145

seiein, to shake. Sisy-phus (sis'2-f2s) n. Gk. Myth. I condemned forever to roll a huge si only to have it roll down again on n

only to have it roll down again on n phe'an (-fe'an) adj. sil (sil) v. sat (sâl), sil-ting, sits. —it torso vertical and the body support 2. To rest with the hindquarters low surface. Used of animals. 3. To percover eggs for hatching; brood. 5. house that sits on a hill. 6. To pose fo pher. 7. a. To occupy a seal as a officials: sit in Congress. b. To be in inactive or unused. 9. To lie or rest at tide. 10. To affect one with or as it official duties sat heavily on him. 11

Official duties sat heavily on him. 11. a specified manner: The jacket sits p be agreeable to one; please: The idea 13. Chiefly Brit. To take an examin 14. To blow from a particular direct:
15. To baby-sit or keep watch. —tr. 1
Sit yourself over there. 2. To keep on
mal). —phrasal verbs. sit down. To t. d or participate in as a visitor: s 2. To take part in a sit-in, sit on (or appress or repress: sat on the enhantly, reprimand, sit out, 1. To s samply, reprimand. sit out. 1. To s. 2. To refrain from taking part in: si 1. To stay up later than the customa ome suddenly alert: sit up and take n (one's) hands. To fail to act. sit pretty graverable position. sit tight. Inj md await the next move. —See Us: sitten < OE sitten!

md await the next move. —See Us: atten < OE sittat; A. A. Hindu stringed ins soned gourds and teak and having a t with 6 or 7 main playing strings abov attonating strings below. [Hindi sitär & string.] —si-tar'ist n. stroom also sit-com (sit'kom') n. 1 stroom also sit-com (sit'kom') n. 1

comedy.

#ldown (sit'doun') n. 1. A work ste workers refuse to leave their place of workers refuse to leave their place of spreement. 2. An obstruction of norm effice, by the act of a large group sittic prevance or protest. —adj. Perform simile sitting down: a sit-down dinner. the (sil) n. 1. The place where somethin leated. 2. The place or setting of an siting, sites. To situate or locate on a sign by the river. [ME < OFr. < Lat. sit site mere, to allow put 1

plan by the river. [ME < OFr. < Lat. still light, to allow, put.]

infect, to allow, put.]

infect, to allow, put.]

infect, only Archaic. Since. [ME sithe continuation of the property of the street of the property of the

sent-to protest racial discrimination. whology (si-tol's-jè) n. The science of fat, [6t sitos, food, grain + -1.00Y.] the strong of sit, [6t sitos, food, grain + -1.00Y.] the strong of sit, [6t sitos, food, grain + -1.00Y.] and the sit occur in plants and are use acid hormones. [Gk. sitos, food, grain the sit sit, esp. booding in. 1. One that sits, esp. booding in.

ther (sit'sr) n. 1. One that sits, esp. broding hen.

In the act or position of the price of the

allon (sich'60-a'shən) n. 1. a. The is positioned vis-à-vis its surroundi to surrounding conditions and status. 3. A combination of c moment; state of affairs: moment; state of affairs: the interpretation of employment; post.—si postion of employment; post.—si comedy n. A humorous radio a continuing cast of characters.

on ethics n. (used with a pl. verb).

on botherly love in which acts are

toar / s sauce / sh ship, dish / t tigl about, item, edible, gallop, ci

ā pat / ā pay / ār care / ā father / b bib / ch.church / d deed / ē pet / ē be / f fife / g gag / h hat / hw which / i pit / i pie / ir pie / j Judge / k kick / l lid. needle / m mum / n no sudden / so thing / so the / j judge / k kick / l lid, needle / m mum / n no, sudden / ng thing / o pot / o toe / o paw, for / oi noise / ou out / oo took / oo book / oo book / oo book / oo took / oo took